SECRET

50X1

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PROGRESS REPORT

FOR

AUGUST 1956

ON

4-INCH ROCKET

1210-E-1

September 28, 1956

Routed to ED for 930 10/11/56

SECRET

During August much attention was given to the problem of increasing the strength of the motor tube so that higher pressures could be tolerated. When the tube with its plug and nozzle was put under hydraulic pressure, it was found that seepage started at a comparatively low pressure, 900 psi. The tube alone withstood 3500 psi before bursting and the complete motor withstood 2200 psi before a plug blew out. The apparent cause of seepage was due to bulging of the tube walls, thereby breaking the bond between the plug and the tube. Tubes externally wrapped reduced the bulging of the wall and a somewhat more flexible bonding resin increased the resistance of the bonds' cracking due to bulging.

A somewhat higher pressure would be tolerated by the tube when the pressure is suddenly applied as in the case of actual use. Calculation of previous firings substantiate this, the tube having held pressures up to 1200 psi. Work is being rushed to recalibrate the electronic pressure gage so that the pressure curve can be obtained during actual firing conditions.

Financial Statement

Total Amount of Contract (Phase II)

Obligations for August, 1956

Total Obligations to August 31, 1956

Balance of Contract

50X1

Expiration Date - June 30, 1957